

REMARKS

Claims 1-21 are pending in the present application. In the Office Action, the Examiner has finally rejected all the claims pending in the present application. However, Applicants respectfully submit that the Examiner has introduced new grounds of rejection in the present Office Action. In particular, the Examiner has rejected claims 1 and 13 under 35 U.S.C. 102(b) as being anticipated by Johnson. The Johnson reference was cited in Information Disclosure Statement filed under 37 CFR 1.97(b) before mailing of the first Office Action on the merits. The Examiner also rejected claims 1 and 13 under 35 U.S.C. 102(b) as being anticipated by Takagi. The Takagi reference was cited by the Examiner in the first Office Action. Claims 1-21 are the original claims presented for examination and have not been amended in any way. Accordingly, Applicants respectfully submit that the new grounds of rejection were not necessitated by Applicants' amendments of the claims nor based on information submitted in an Information Disclosure Statement filed during the period set forth in 37 CFR 1.97(c). Applicants respectfully request that the finality of the present Office Action be withdrawn.

Anticipation Rejections

Claim 1 sets forth an interconnect for a location dependent device. The interconnect includes a plurality of electrical contacts external to the location dependent device. The plurality of electrical interconnects can provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. Claims 8-12 depend from independent claim 1.

Claim 13 sets forth a system for determining a position of at least one location dependent device deployed on a vehicle. The system includes at least one bus capable of transmitting at

least one bus signal and a plurality of interconnects. Each of the plurality of interconnects is capable of receiving the bus signal from the bus and providing the bus signals to at least one location dependent device associated with the interconnect. The system also includes a plurality of electrical contacts. At least two of the plurality of electrical contacts are associated with each of the interconnects and are capable of providing a signal indicative of a physical location of the interconnect to the location dependent device associated with the interconnect when the location dependent device is installed. Claims 14-21 depend from independent claim 13.

In the Office Action, claims 1 and 8-11 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Rafert (U.S. Patent No. 6,497,659). The Examiner's rejections are respectfully traversed.

Rafert describes a system for identifying a cable transmitting a signal from a sensor to an electronic instrument. For example, a sensor is connected to a connector 20 using a cable 12. The connector 20 includes a capacitor 22 (or other electrical circuit), which may be identified by the microprocessor 30. See Rafert, col. 4, ll. 37-67 and Figure 2. However, the capacitor 22 (or other electrical circuit) in the connector 20 does not provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. For example, the capacitor 22 (or other electrical circuit) indicates that the sensor associated with the capacitor 22 (or other electrical circuit) is connected, but it provides no indication of the location of the sensor.

In response to the above arguments, the Examiner alleges that the specification does not indicate specific features of the contacts that make them capable of providing the signal indicative of the physical location of the location dependent device. Applicants respectfully disagree and note that the specification describes several embodiments of interconnects that are

capable of providing a signal indicative of a physical location of a location dependent device when the location dependent device is installed. See, e.g., Figures 3A, 3B, and 3C, and related discussion in the specification.

The Examiner also notes that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Applicants respectfully submit that this principle is not applicable in the present case because the prior art apparatus does not satisfy the structural limitations set forth in claim 1. In particular, as discussed above, the connector 20 described by Rafert is not configured to provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed.

For at least this aforementioned reason, Applicants respectfully submit that the present invention is not anticipated by Rafert and request that the Examiner's rejections of claims 1 and 8-12 under 35 U.S.C. 102(e) be withdrawn.

In the Office Action, claims 1 and 13 were rejected under 35 U.S.C. 102(b) as being anticipated by Johnson (U.S. Patent No. 5,435,503). The Examiner's rejections are respectfully traversed.

Johnson describes a tactical missile including a guidance processing unit 21 that may be coupled to an inertial measurement unit 22, an attitude control system 23, an aerodynamic maneuvering system 24, and a seeker 27. See Johnson, col. 9, ll. 28-56 and Figure 1. The guidance processing unit 21 also includes a multiplex bus (MUX). See Johnson, col. 10, ll. 49-50 and Figure 3. However, contrary to the Examiner's unsupported allegation, Johnson is completely silent with regard to providing a signal indicative of a physical location of the

location dependent device when the location dependent device is installed, as set forth in claims 1 and 13.

For at least this aforementioned reason, Applicants respectfully submit that the present invention is not anticipated by Johnson and request that the Examiner's rejections of claims 1 and 13 under 35 U.S.C. 102(b) be withdrawn.

In the Office Action, claims 1 and 13 were rejected under 35 U.S.C. 102(b) as being anticipated by Takagi (U.S. Patent No. 6,441,748). The Examiner's rejections are respectfully traversed.

Takagi describes a container 22 having connectors 14, a power bus 15, and a signal bus 16 to enable connection of sensor units 1 to external units. See Takagi, col. 2, line 35 – col. 3, line 5 and col. 4, ll. 27-32, as well as Figures 3-4 and 7. A differential global positioning system unit 20 may be disposed in a slot 17 of the container 22. The differential GPS unit 20 may provide wireless transmission of global positioning data and signals related to the road surface conditions as sensed by the sensor units 1. The Examiner then alleges that unspecified contacts within the differential GPS unit 20 are capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed, as set forth in claims 1 and 13. Applicants respectfully disagree and submit that the Examiner's allegations are without record support. To the contrary, Takagi is completely silent with regard to any contacts present within the differential GPS units 20 and fails to teach or suggest a plurality of contacts capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed, as set forth in claims 1 and 13.

For at least this aforementioned reason, Applicants respectfully submit that the present invention is not anticipated by Takagi and request that the Examiner's rejections of claims 1 and 13 under 35 U.S.C. 102(b) be withdrawn.

**Obviousness Rejections**

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). Furthermore, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. That is, there must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1986). In fact, the absence of a suggestion to combine is dispositive in an obviousness determination. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573 (Fed. Cir. 1997). A recent Federal Circuit case emphasizes that, in an obviousness situation, the prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art. *In re Lee*, 61 U.S.P.Q.2d 143 (Fed. Cir. 2002). Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35.

In the Office Action, claims 1-7 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takagi (U.S. Patent No. 6,441,748) in view of Arratia (U.S. Patent No. 5,659,283). The Examiner's rejections are respectfully traversed.

Takagi describes a sensor unit 1 that is disposed under the surface of road 12. The sensor unit 1 includes a container 11 having connectors 14, a power bus 15, and a signal bus 16 to enable connection of the sensor units 1 to external units. See Takagi, col. 2, line 35 – col. 3, line 5 and Figures 3-4. However, as admitted by the Examiner, Takagi fails to teach or suggest a plurality of electrical contacts external to the location dependent device that can provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. Arratia describes a plurality of illuminators 28 for providing a visual indication of current in particular ones of fuses 16 that have been interrupted by opening of links 26. The illuminators 28 are preferably physically located in association with the fuses 16. See Arratia, col. 3, ll. 5-36.

The Examiner alleges that it would have been obvious to combine the teachings of these two references to verify the status of a connection between a sensor unit 1 and a connector 14 using an illuminator 28. Applicants respectfully disagree. Arratia teaches that the illuminators 28 are used to provide a visual indication of one or more blown fuses and provides no suggestion or motivation for including the illuminators 28 in a device such as the container 11 to indicate whether or not one or more sensors 1 is connected.

Takagi also fails to provide any suggestion or motivation for incorporating any visual identification device for providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed. To the contrary, Takagi teaches away from incorporating the illuminators 28 into the container 11. In particular, Takagi teaches that the containers 11 are to be sealed and deployed under the road 12. Illuminators 28 physically located in the containers 11 would also be sealed in the containers 11 and deployed under the road 12. Thus, the illuminators 28 would be invisible and not able to provide a visual

indication unless the container 11 was uncovered and opened, in which case illuminators 28 would not be needed to determine whether the sensors 1 were connected. It is by now well established that teaching away by the prior art constitutes *prima facie* evidence that the claimed invention is not obvious. *See, inter alia, In re Fine*, 5 U.S.P.Q.2d (BNA) 1596, 1599 (Fed. Cir. 1988); *In re Nielson*, 2 U.S.P.Q.2d (BNA) 1525, 1528 (Fed. Cir. 1987); *In re Hedges*, 228 U.S.P.Q. (BNA) 685, 687 (Fed. Cir. 1986).

In response to the above arguments, the Examiner states that the structural features recited in the prior art are common devices for transforming or detecting signals irrespective of an area of implementation. However, Applicants respectfully submit that whether or not this is the case is not material to establishing whether the prior art provides some suggestion or motivation to combine the references to arrive at the claimed invention. For at least the reasons discussed above, Applicants maintained that the prior art of record fails to provide any suggestion or motivation to combine the references to arrive at the claimed invention. To the contrary, Takagi teaches away from the Examiner's proposed combination and/or modifications to the prior art.

For at least the aforementioned reasons, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Takagi and Arratia. Applicants request that the Examiner's rejection of claims 1-7 under 35 U.S.C. 103(a) be withdrawn.

In the Office Action, claims 13-15 and 17 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Flick (U.S. Patent No. 6,771,167) in view of Arratia. The Examiner's rejections are respectfully traversed.

Claim 13 sets forth a system for determining a position of at least one location dependent device deployed on a vehicle. The claimed system includes a plurality of electrical contacts. At least two of the plurality of electrical contacts are capable of providing a signal indicative of a physical location of an interconnect to the location dependent device associated with the interconnect when the location dependent device is installed. Claims 14-21 depend from claim 13.

Flick describes one or more vehicle sensors 23 that are connected to a data communications bus 12. See Flick, col. 5, ll. 41-55. However, as admitted by the Examiner, Flick fails to teach or suggest a plurality of electrical contacts external to the location dependent device that can provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. As discussed above, Arratia describes a plurality of illuminators 28 for providing a visual indication of current in particular ones of fuses 16 that have been interrupted by opening of links 26. See Arratia, col. 3, ll. 5-36.

The Examiner alleges that it would have been obvious to combine the teachings of Flick and Arratia to arrive at the invention to set forth in independent claim 13 and claims 14-15 and 17 depending therefrom. Applicants respectfully disagree. Flick is not concerned with whether or not the vehicle sensors 23 are connected to the data communication bus 12, at least in part because the techniques described in Flick assume that the vehicle sensors 23 have been correctly connected to the data communication bus 12. Accordingly, Flick does not suggest that there is any need for any kind of indication that the vehicle sensors 23 are connected to the data communication bus 12. Moreover, even if it was desirable to provide some indication that the vehicle sensors 23 are connected to the data communication bus 12, Flick does not provide any

suggestion or motivation for that a visual identification device, such as the illuminators 28 described by Arratia, would be a potential and/or desirable solution.

Arratia also fails to provide any suggestion or motivation for the Examiner's proposed combination and modification of the prior art of record. As discussed above, Arratia teaches that the illuminators 28 are used to provide a visual indication of one or more blown fuses and thus provides no suggestion or motivation for including the illuminators 28 in a device such as the vehicle alerting system 10 described by Flick to indicate whether or not one or more vehicle sensors 23 are connected to the data communications bus 12.

In response to the above arguments, the Examiner alleges that the specification does not indicate specific features of the contacts that make them capable of providing the signal indicative of the physical location of the location dependent device. Applicants respectfully disagree and note that the specification describes several embodiments of interconnects that are capable of providing a signal indicative of a physical location of a location dependent device when the location dependent device is installed. See, e.g., Figures 3A, 3B, and 3C, and related discussion in the specification.

The Examiner also notes that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Applicants respectfully submit that this principle is not applicable in the present case because the prior art apparatus does not satisfy the structural limitations set forth in claim 1. In particular, as discussed above, the illuminators 28 described by Arratia are not configured to provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed.

The Examiner further states that the structural features recited in the prior art are common devices for transforming ore detecting signals irrespective of an area of implementation. However, Applicants respectfully submit that whether or not this is the case is not material to establishing whether the prior art provides some suggestion or motivation to combine the references to arrive at the claimed invention. For at least the reasons discussed above, Applicants maintained that the prior art of record fails to provide any suggestion or motivation to combine the references to arrive at the claimed invention.

For at least the aforementioned reasons, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Flick in view of Arratia. Applicants request that the Examiner's rejections of claims 13-15 and 17 under 35 U.S.C. 103(a) be withdrawn.

In the Office Action, claims 13, 16, and 18-21 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Flick in view of Rafert. The Examiner's rejections are respectfully traversed.

As discussed above, Flick describes one or more vehicle sensors 23 that are connected to a data communications bus 12. However, as admitted by the Examiner, Flick fails to teach or suggest a plurality of electrical contacts external to the location dependent device that can provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. As discussed above, Rafert describes a system for identifying a cable transmitting a signal from a sensor to an electronic instrument. A connector 20 includes a capacitor 22 (or other electrical circuit), which may be identified by the microprocessor 30. See Rafert, col. 4, ll. 37-67 and Figure 2. However, as discussed above, the capacitor 22 (or other electrical circuit) in the connector 20 does not provide a signal indicative

of a physical location of the location dependent device when the location dependent device is installed. Thus, Applicants respectfully submit that Flick and Rafert fail to teach all the limitations of independent claim 13 and claims 16 and 18-21 depending therefrom.

For at least this reason, Applicants submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Flick in view of Rafert and request that the Examiner's rejections of claims 13, 16, and 18-21 under 35 U.S.C. 103(a) be withdrawn.

In the Office Action, claims 13 was rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Flick in view of Chen (U.S. Patent No. 6,755,681). The Examiner's rejections are respectfully traversed.

As discussed above, Flick describes one or more vehicle sensors 23 that are connected to a data communications bus 12 but, as admitted by the Examiner, Flick fails to teach or suggest a plurality of electrical contacts external to the location dependent device that can provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. Chen describes providing a detecting signal, which may be recognized by a contacting flexible piece 422 so that power may be successfully output to a socket 4 electrically conducting an electronic device. See Chen, col. 6, ll. 39-51, and Figure 2. However, the detecting signal is not a signal indicative of a physical location of a location dependent device when the location dependent device is installed.

In response to the above arguments, the Examiner alleges that the specification does not indicate specific features of the contacts that make them capable of providing the signal indicative of the physical location of the location dependent device. Applicants respectfully disagree and note that the specification describes several embodiments of interconnects that are capable of providing a signal indicative of a physical location of a location dependent device

when the location dependent device is installed. See, e.g., Figures 3A, 3B, and 3C, and related discussion in the specification.

The Examiner also notes that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Applicants respectfully submit that this principle is not applicable in the present case because the prior art apparatus does not satisfy the structural limitations set forth in claim 1. In particular, as discussed above, the detecting signal described by Chen is not a signal indicative of a physical location of the location dependent device when the location dependent device is installed.

Thus, Applicants respectfully submit that Flick and Chen fail to teach all the limitations of independent claim 13. For at least this reason, Applicants submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Flick in view of Chen and request that the Examiner's rejections of claim 13 under 35 U.S.C. 103(a) be withdrawn.

#### Conclusion

For the aforementioned reasons, it is respectfully submitted that all claims pending in the present application are in condition for allowance. The Examiner is invited to contact the undersigned at (713) 934-4052 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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